

WHAT IS CLAIMED IS:

1. A method of operating a digital micromirror device having at least one micromirror, the method comprising:

applying a reset voltage pulse to the micromirror, wherein the reset voltage pulse causes the micromirror to launch from a landing plate;

5 applying an offset voltage to the micromirror immediately after the reset voltage pulse, wherein the offset voltage is applied for a damping delay period, wherein the micromirror launches and is moving away from the landing plate before an expiration of the damping delay period;

applying a damping pulse to the micromirror immediately after the offset voltage,  
10 wherein the damping pulse voltage is equal to a bias voltage for the micromirror; and  
reapplying the offset voltage to the micromirror, whereby the damping pulse reduces oscillation of the micromirror about a neutral position.

2. The method of claim 1, wherein a damping pulse polarity is opposite from a reset voltage pulse polarity.

15 3. The method of claim 2, wherein the damping pulse has a positive polarity and the reset voltage pulse has a negative polarity.

4. The method of claim 1, further comprising:

loading an address state for the micromirror during the reapplying of the offset voltage;  
and

20 applying the bias voltage to the micromirror, wherein the micromirror assumes the address state.

5. The method of claim 1, wherein the reset voltage is about -26 volts, the offset voltage is about 7 volts, and the bias voltage is about 24 volts.

6. The method of claim 1, wherein the damping delay period is greater than 1 microsecond.

7. The method of claim 6, wherein the damping delay period is about 1.6 microseconds and

5 the damping pulse is about 3.9 microseconds long.

8. A method of operating a digital micromirror device having at least one micromirror, the method comprising:

applying a reset voltage pulse to the micromirror, wherein the reset voltage pulse causes the micromirror to launch from a landing plate;

5 applying an offset voltage to the micromirror immediately after the reset voltage pulse, wherein the offset voltage is applied for a damping delay period, wherein the micromirror launches and is moving away from the landing plate before an expiration of the damping delay period;

applying a damping pulse to the micromirror immediately after the offset voltage,

10 wherein the damping pulse polarity is opposite to the reset voltage polarity; and

reapplying the offset voltage to the micromirror, whereby the damping pulse reduces oscillation of the micromirror about a neutral position.

9. The method of claim 8, wherein the damping pulse has a positive polarity and the reset voltage pulse has a negative polarity.

15 10. The method of claim 8, further comprising:

loading an address state for the micromirror during the reapplying of the offset voltage; and

applying the bias voltage to the micromirror, wherein the micromirror assumes the address state.

20 11. The method of claim 10, wherein the reset voltage is about -26 volts, the offset voltage is about 7 volts, and the bias voltage is about 24 volts.

12. The method of claim 8, wherein the damping delay period is greater than 1 microsecond.

13. The method of claim 12, wherein the damping delay period is about 1.6 microseconds and the damping pulse is about 3.9 microseconds long.